SERVICE MANUAL
Level 1&2

NOKIA N73-1 NOKIA N73-5

RM-133 **RM-132**

Transceiver characteristics:

Band:

- RM-133: Dual Mode WCDMA2100/EGSM 850/900/1800/1900MHz
- RM-132: Quadband EDGE GSM phone for 850/900/1800/1900MHz

Camera: 3.2 Megapixel (2048x1536 pixels) with 20x digital zoom

Display: QVGA color TFT display with 262.144 colors, resolution 240 x 320 pixel

Bluetooth

IrDA

FM radio

Memory Card: miniSD™

Connector: Pop-Port™ connector

Transceiver with BP-6M Li-Ion battery pack

Talk time	Standby	Note
GSM: up to 4.1 h WCDMA: up to 3.8 h	GSM: up to 14.6 days WCDMA: up to 15.4 days	Depends on network parameters

Environmental characteristics:

- Lead-free soldered

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CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	13.Jun.2006	Initial draft
Approved	1.0	13.Jul.2006	Approval

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1. INTRODUCTION

The purpose of this document is to help NOKIA service levels 1 and 2 workshop technicians to carry out service to NOKIA products. This Service Manual is to be used only by authorized NOKIA service suppliers, and the content of it is confidential. Please note that NOKIA provides also other guidance documents (e.g. Service Bulletins) for service suppliers, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist.
If you find any errors or if you have further suggestions, please notify NOKIA using the address below:
mailto:cc-ts-rc.documentation@nokia.com

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI–SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES, EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti–static workstation and that an anti–static wrist strap is worn.
3. Use only approved components as specified in the parts list.
4. Ensure all components, modules screws and insulators are correctly re–fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly.

Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on NOKIA Online. Also see ESD Protection Requirements in this Service Manual.

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2. GENERAL REPAIR INFORMATION

In this section the technician will get some general hints how to carry out repairs:

- To familiarize oneself with NOKIA product read the tutorials or user guide on www.nokia.com -->Support--> Phones, by selecting the Phone Model.
- Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
- Use gloves to avoid corrosion and fingerprints.
- Protect windows and displays with a film to avoid dust and scratches.
- When cleaning the LCD Module any lint-free cloth can be used (e.g. Micro-Fibre cloth).
- When cleaning the pads you have to use a soft cloth/ESD brush and Isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
- Mechanical parts (except shielding lids and bent parts), which didn't repair the failure, can be reused, if they are not soldered.
- When removing the shielding lids make sure to replace them with new ones, otherwise the high-frequency leakage can have an influence on the device.
- Always use original NOKIA spare parts.
- Check the soldering joints of the parts, which are concerned regarding the indicated error (e.g. soldered connectors or switches) and resolder them if necessary (Level 2 only).
- Remove redundant soldering flux after repair.
- Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on NOKIA Partner Web Site/NOKIA Online).
- Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
- A SIM card is needed for all GoNoGo tests.
- When doing the fault log entries, always note the Item code, which caused the malfunction. Also, fill in the appropriate part code from the assembly, if needed.
- Please be aware that some malfunctions could be software related and solved by an update.

- There are several documents available on NOL, which have to be followed:
-
- First, take care for the latest content pages of Service Bulletins, which are always available for each folder on NOKIA Online. This is also important to recognize, if existing documents have become invalid.
-
- The service level indicator at the bottom of each document tells the appropriate destination.

Downloads > Support Library >

1. Instructions
2. General Service Bulletins
3. Product related documents
4. Spare Part Service Bulletins
5. Service Tools Service Bulletins
6. Common Software Service Bulletins
   etc,...

Use General SB-217 as a reference or overview.

Please also check NOKIA Online (NOL) for latest news and files on a regular basis.

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3. PATHFINDER FOR WORKSHOP STAFF

This is the NOL page (NOKIA Online) which is currently available in Europa, Middle East and Africa only!

In addition to the information in this Service Manual, there are several instructions and information, which have to be followed. Main documentation database is **NOKIA Online** with the purpose of serving different multimedia content, like video clips or interactive tutorials.

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see **"Latest files in Support Library"**). Every new information has to be processed and implemented as soon as possible.
When logged into NOL you can also find needed information in different folder like:

Support Library → **Phones** →
Service Manuals
Service Bulletins
Software
Repair Information

Level 1&2 e-learning (former NOKIA CarePoint) on NOKIA Online

Former NOKIA CarePoint content, such as	• **Online Troubleshooting** • **Product information** • **Videos – Disassembly/Assembly**	can be found on **NOKIA Online**

Nokia 1100 Technical Training - Microsoft Internet Explorer provided by NOKIA
NOKIA
Connecting People
Nokia 1100 Technical Training
Help
Site map
Glossary
Close
Home
Overview & Guides
Disassembly & Assembly
Troubleshooting
Nokia 1100 Technical Training
This training offers a quick overview of the Nokia 1100 phone and support for how to repair and use the phone.
Overview & Guides
Disassembly & Assembly
Troubleshooting
Get a quick overview of the phone and how to use it.
Learn how to remove and reassemble the mechanical parts of the phone.
Fixes for most common problems with the Nokia phone.
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NOKIA Online
↓
Care Services
↓
Training
↓
Phone Models

Level 1&2 e-learning courses offer a quick overview of the NOKIA phone and support for how to repair and use the phone:

Overview & Guides	Disassembly & Assembly	Troubleshooting
Basic information about the phone, features and technologies	Instructions how to disassemble and assemble the phone	Step-by-step instructions on how to locate and repair the most common problems with the phone

To reduce the server traffic it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.

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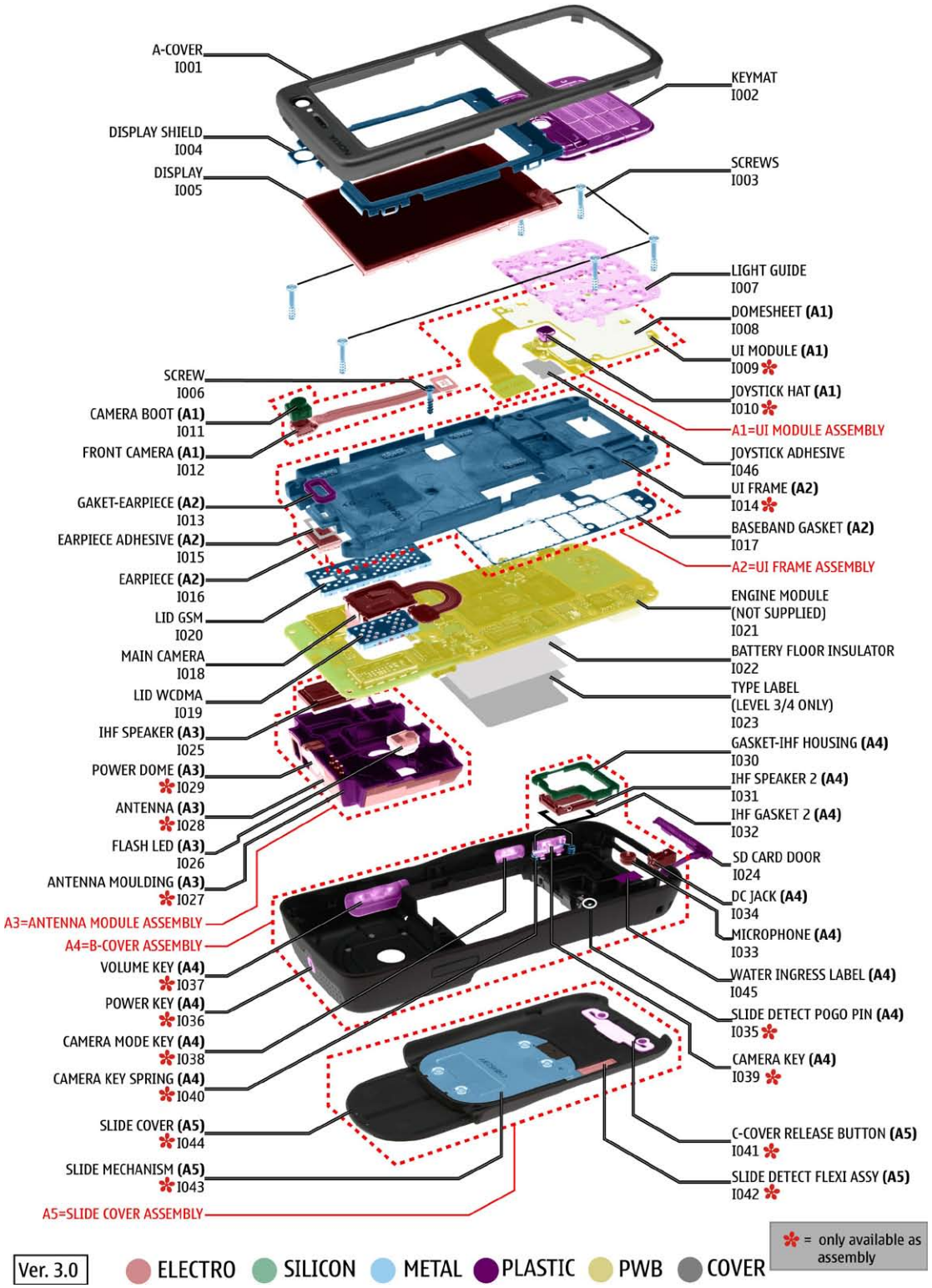
4. EXPLODED VIEW AND COMPONENT DISPOSAL

Recommendation for the ecologically friendly disposal of components. Colorized components show the different categories. See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

N73-1 RM-132/ N73-5 133 Exploded view



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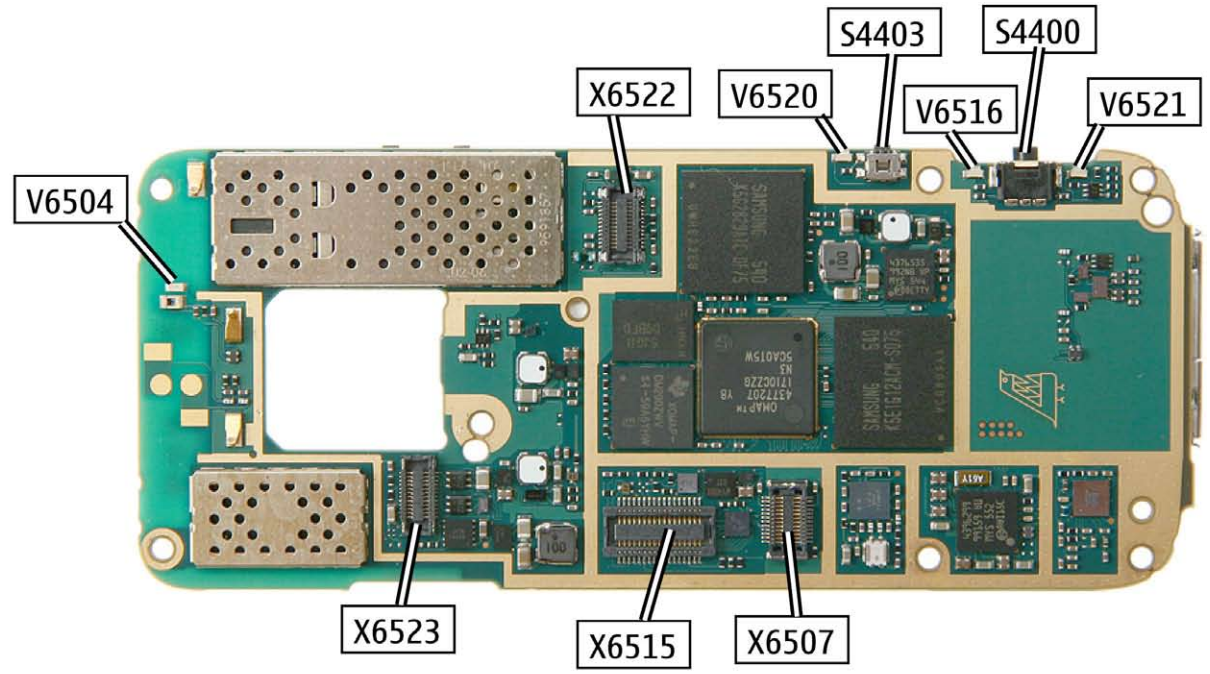
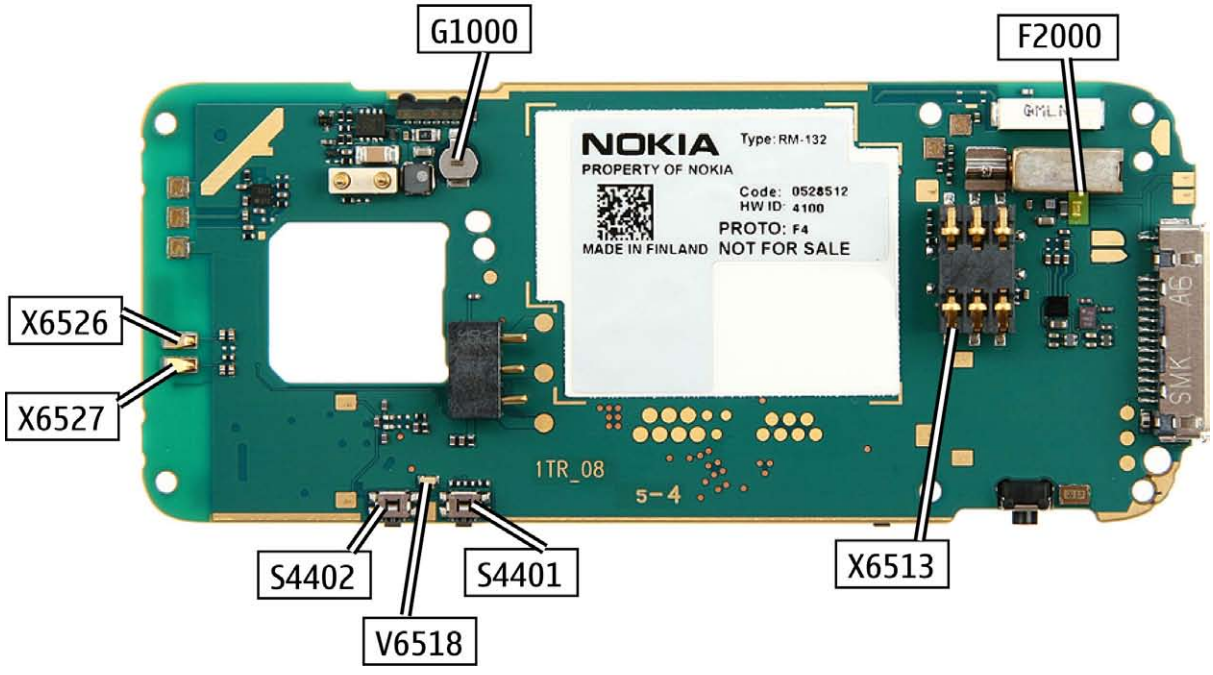
5. COMPONENT OVERVIEW

N73 RM-132/133 Components overview

LEVEL 2 SOLDER COMPONENTS





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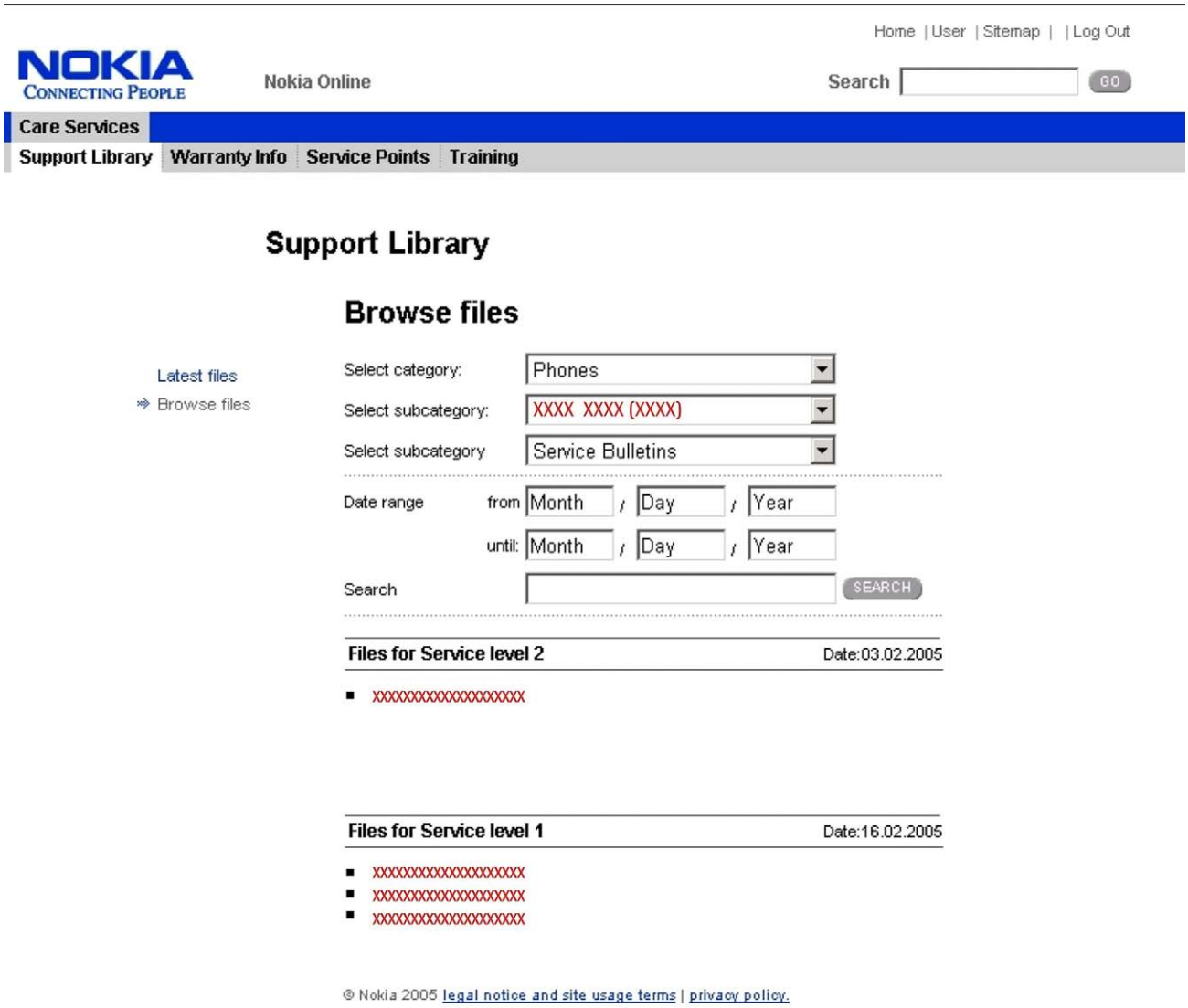
6. SPARE PARTS LIST

NOL is the database where you can find the latest corresponding Service Bulletins (spare parts, SWAP units and service tools).

This will ensure, that you are using up-to-date order codes only.

Therefore Service Bulletins have to be checked from NOL on daily basis.



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7. SERVICE TOOLS

	FLS-4S incl. ACF-8, Driver and User Guide Dongle and flash device incorporated into one package, developed specifically for POS use.
	ACF-8 Universal Power Supply is used to power FLS-4S.
	Travel Charger AC-4 Small and lightweight charger for fast charging of your phone battery.
	Internal Battery BP-6M Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.
	Headset HS-23 Small and lightweight stereo headset with handsfree call handling, volume control, push to talk support, and comfortable earpieces for listening to the FM radio or music player.
	CA-53 Service Cable to connect the PC with the Pop-Port™ connector.
	RJ-132 Soldering Jig

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	Lead-free Solder Wire Mandatory for lead-free products (Level 2 only).
	0772040 NMP Standard Toolkit (V2) For more informations refer to the Service Bulletin (SB-011) on NOKIA Online. Supplier or manufacturer contacts for tool re-order can be found in "**Recommended service equipment**" document on NOKIA Online.

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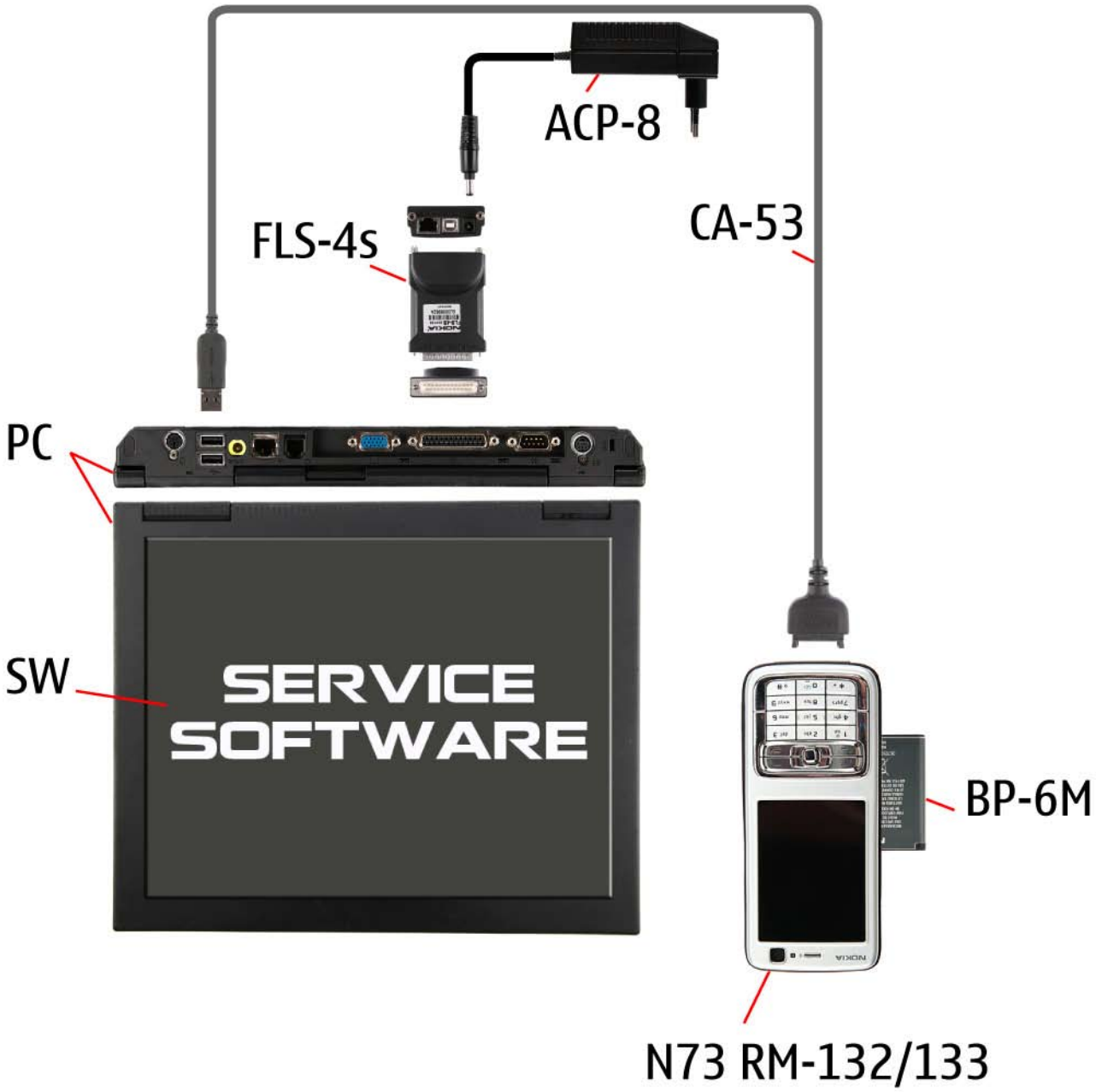
8. SW-UPDATE

Flash Concept – (Point of Sales)

To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always for the latest version of flash software, which is available on
NOKIA Online.



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9. DISASSEMBLY INSTRUCTION

1. Needed tools: a Torx Plus size 6 screwdriver, metal tweezers, a DC plug, the SS-93 opening tool, a dental pick and the SRT-6.

2. Cover the window with a protective film.

3. Unlock and open the SLIDE COVER ASSEMBLY.

4. Cover the CAMERA WINDOW with a protective film.

5. Place the SS-93 between the KEYMAT and the edge of the A-COVER and unlock the button clip first.

6. Hold the SS-93 in the shown position and unlock the side clip with SRT-6 by pressing it between the A-COVER and the B-COVER.

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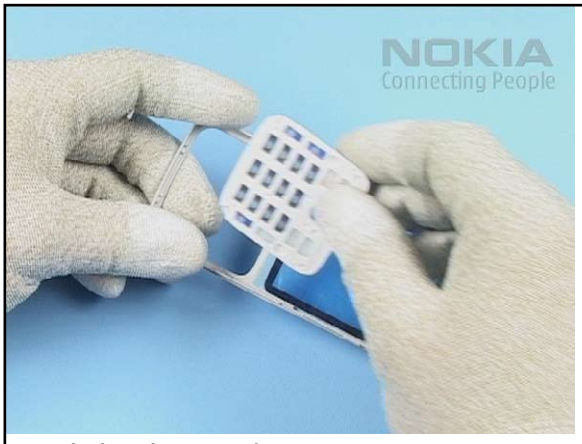
7. Do the same on the other side.

8. Slide the SRT-6 along the marked edges to unlock the snaps.

9. Do the same on the other side.

10. Lift the A-COVER a bit and unlock its top side from the B-COVER with the SS-93.

11. Remember to protect the inner side of the window with a protective film.



12. Unlock and remove the KEYMAT.

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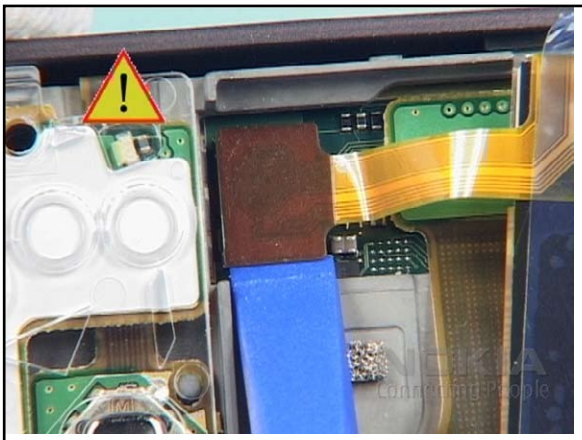
13. Carefully unlock and remove the DISPLAY SHIELD by using the dental tool.

14. Cover the DISPLAY with a protective film.

15. Gently lift out the DISPLAY with the SS-93 from the UI FRAME...



16. ...and disconnect it from the ENGINE MODULE.

17. Open the FRONT CAMERA connector.

18. Remove the FRONT CAMERA from the UI-FRAME.

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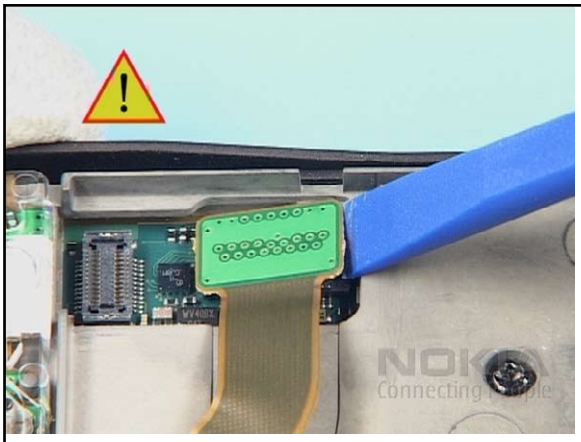
19. The CAMERA BOOT can now be separated from the FRONT CAMERA.

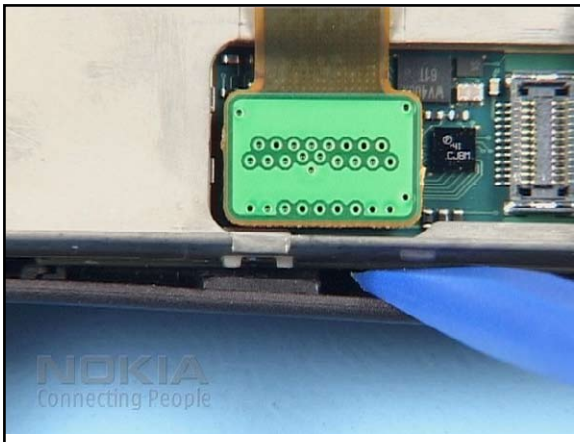


20. Carefully open the UI MODULE connector taking special care to the surrounding components.

21. Undo the screws in the order shown.

22. Remove the screws and discard them.

23. The UI FRAME is attached with two snaps to the B-COVER.



24. Unlock the UI FRAME with the SS-93.

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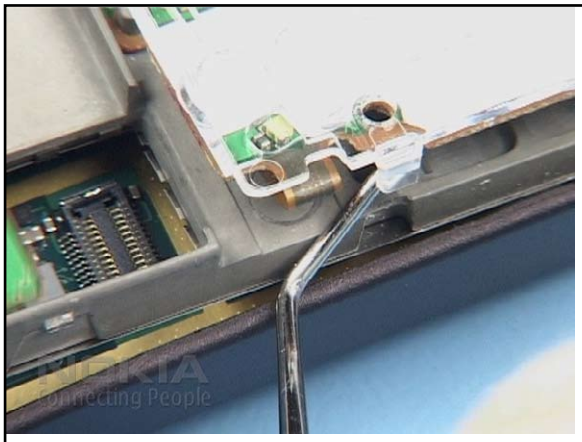
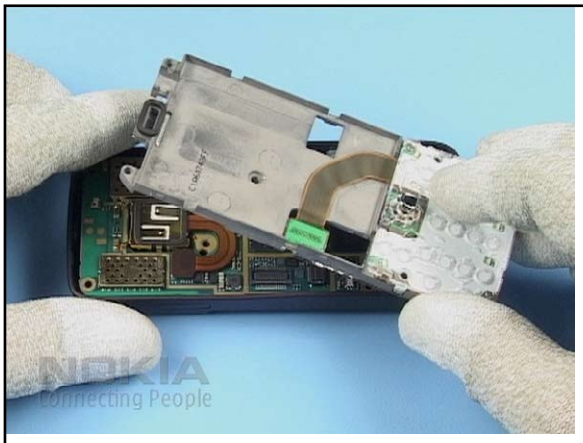
25. Open the SD DOOR but do not remove it yet.



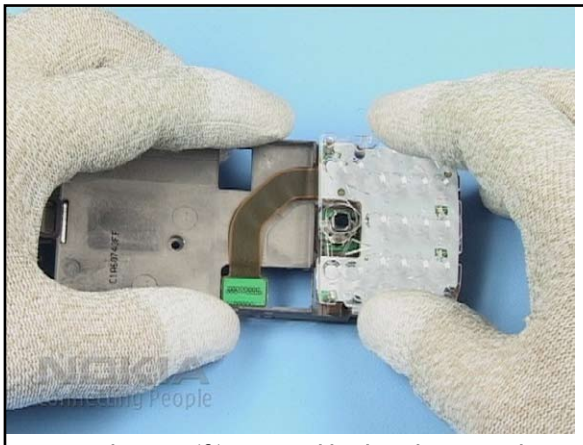
26. Lift the UI FRAME a bit and unsnap the LIGHT GUIDE.

27. Now remove the SD DOOR.



28. Remove the UI FRAME with the UI MODULE from the B-COVER.

29. Take special care to the BASEBAND GASKET.



30. Open the snap if it snapped back and remove the LIGHT GUIDE.

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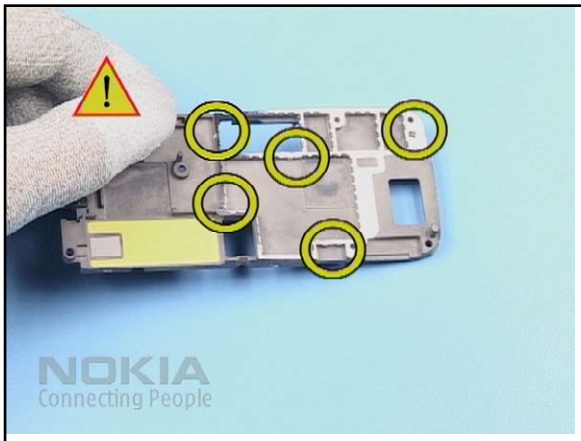
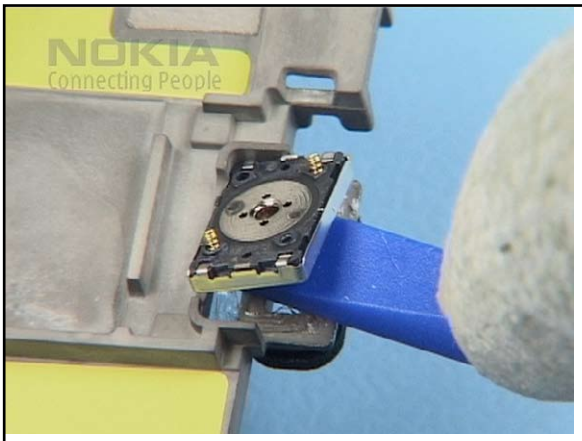
31. Place the UI MODULE over the JOYSTICK HAT and carefully lever out the MODULE from the UI FRAME with SS-93.

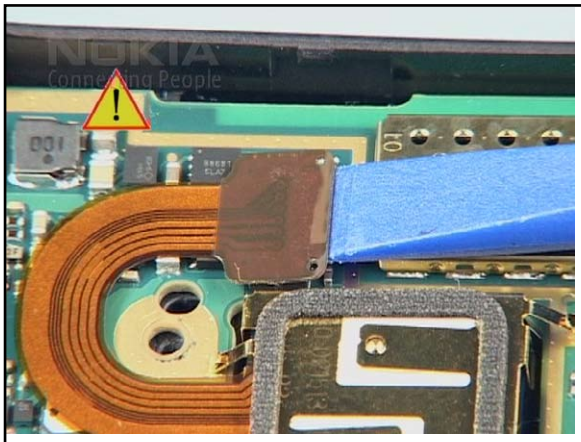
32. Move the UI MODULE to the primary position and then remove the UI MODULE by using the SS-93 as a support.



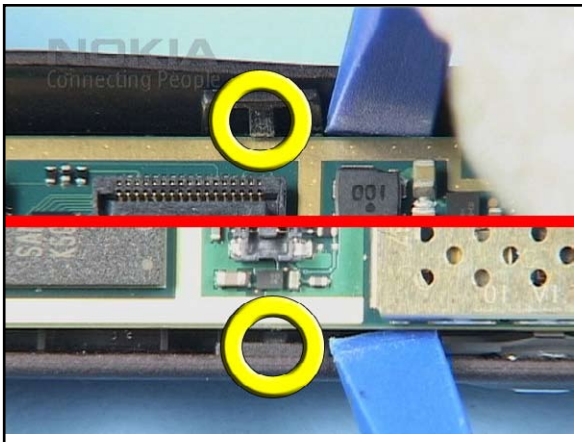
33. Gently, unlock the BASEBAND GASKET as shown and remove it from the UI FRAME.



34. Replace the EARPIECE when necessary. Keep in mind to remove the EARPIECE ADHESIVE residues before assembling a new EARPIECE with a new EARPIECE ADHESIVE.



35. Disconnect the MAIN CAMERA from the ENGINE MODULE and remove it carefully from its housing.



36. The ENGINE MODULE is snapped to the B-COVER with two snaps. Unlock the ENGINE MODULE with the SS-93 ...

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37. ... and remove it as shown taking care to all spring contacts.

38. Unlock the ANTENNA MODULE ASSEMBLY with the SS-93 ...

39. ... and remove it from the B-COVER.

40. Lift the IHF SPEAKER from its housing and remove it easily.

41. Gently push down the FLASH LED from the ANTENNA MOULDING.

42. Remove the GASKET IHF HOUSING.

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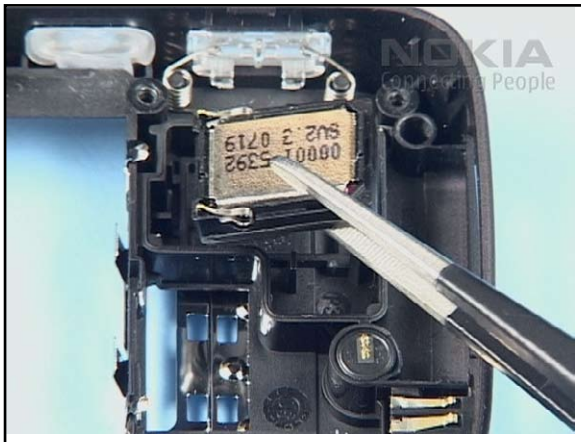

43. Remove the IHF SPEAKER 2 remember to remove whole IHF GASKET 2 residues.

44. Remove the MICROPHONE with the dental pick.

45. Use the DC plug to release the DC-JACK.

46. The DC-JACK drops out easily when turning the B-COVER.

47. The disassembly procedure is now finished.

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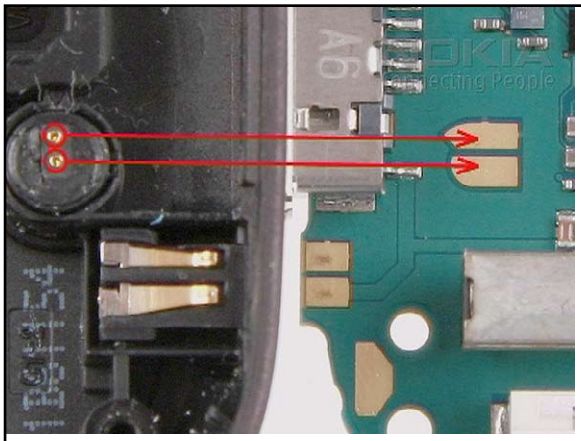
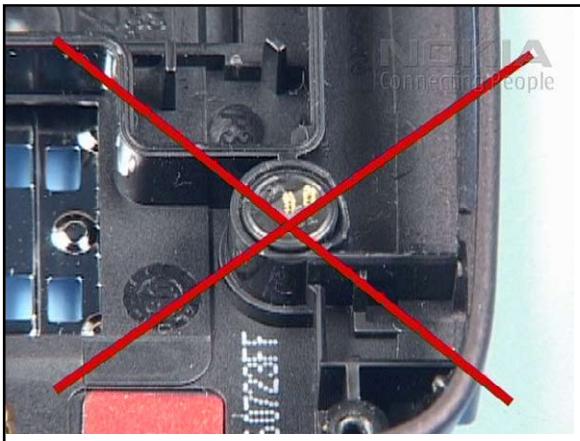
10. ASSEMBLY INSTRUCTION

1. Needed tools: a Torque driver, a Torx size 6 plus bit, metal tweezers and the SS-93 opening tool.

2. Insert the MICROPHONE exactly as shown, avoid bending the spring contacts.



3. Take a special attention to the right position of the spring contacts



4. to avoid short-circuit or malfunction of the MICROPHONE..

5. Place the DC-JACK with tweezers into its housing ...

6. and push it carefully into place with the SS-93. Do not bend the spring contacts.

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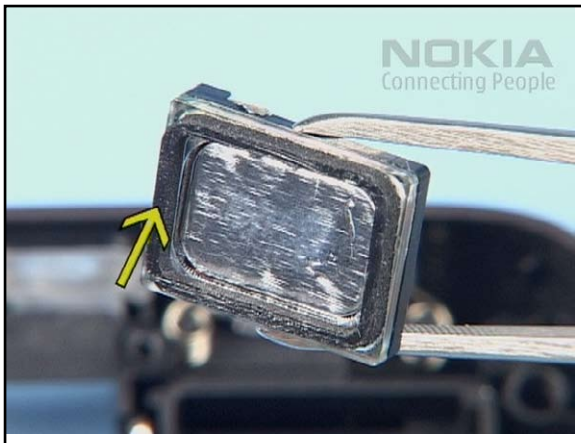
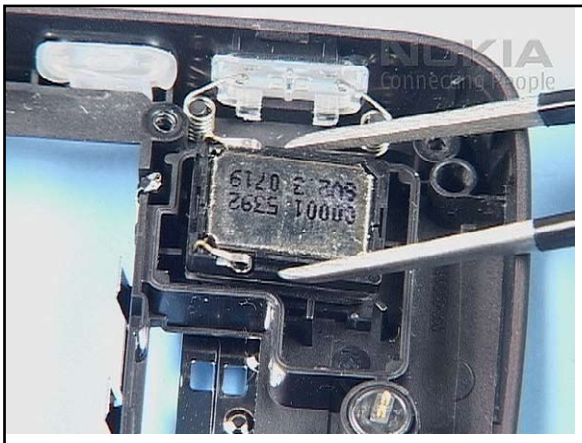
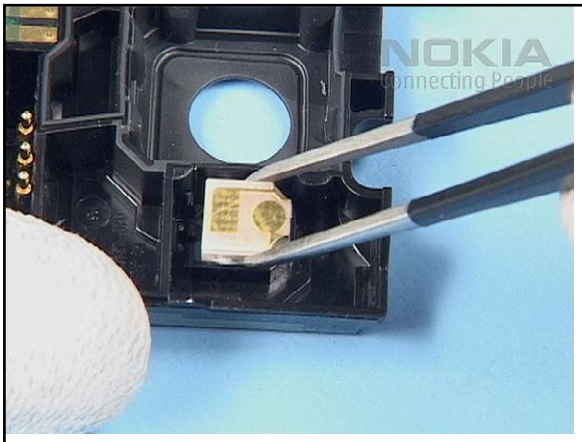


7. Ensure the correct position of the new IHF GASKET 2.



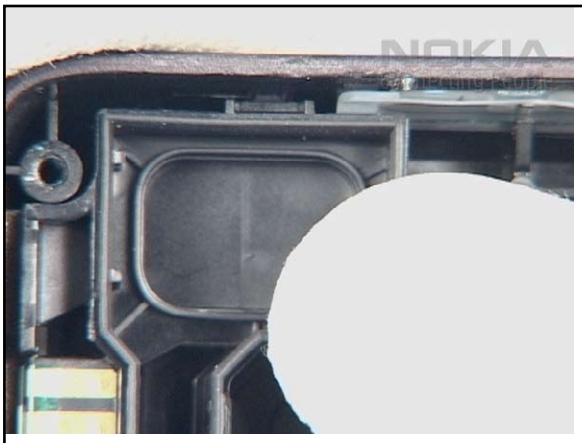
8. Place the IHF SPEAKER 2 into the B-COVER and press it lightly to stick it on correctly.

9. Position the GASKET IHF HOUSING onto its place paying attention to the spring contacts of the IHF SPEAKER.



10. Place the FLASH LED into its socket and secure it carefully with the SS-93.

11. Insert the ANTENNA MOULDING in the B-COVER...



12. ...and press it lightly into place.

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13. Insert the IHF SPEAKER paying attention to its spring contacts.

14. Insert the ENGINE MODULE under the shown angle.

15. Pay special attention to the SWITCHES when inserting the ENGINE MODULE into the B-COVER.

16. Secure the ENGINE MODULE.

17. Clean the camera window.

18. and the MAIN CAMERA with compressed air.

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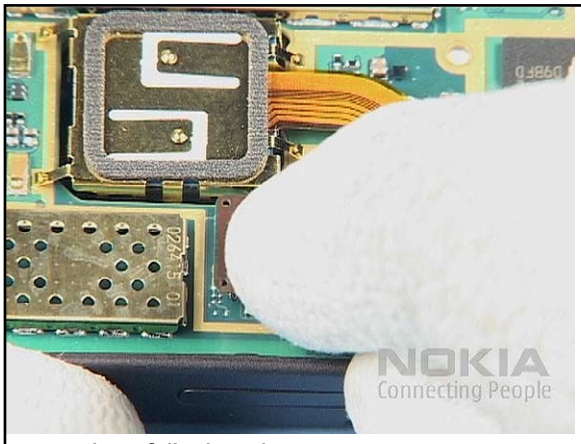
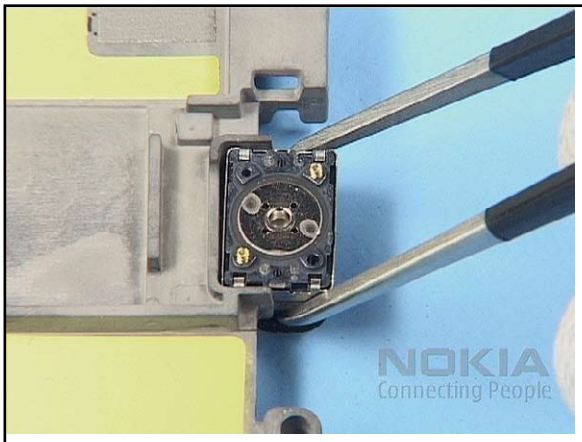
19. Insert the MAIN CAMERA into its housing...

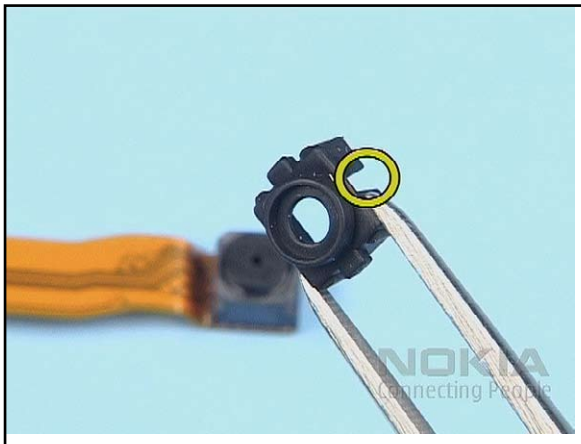


20. ...and carefully close the connector.

21. Place the BASEBAND GASKET on the IU FRAME and secure it as shown.



22. Place the EARPIECE with a new EARPIECE ADHESIVE into its frame, avoid bending the spring contacts.



23. Ensure the correct position of the CAMERA BOOT when putting it onto the FRONT CAMERA.

24. Fit the FRONT CAMERA to the UI-FRAME.

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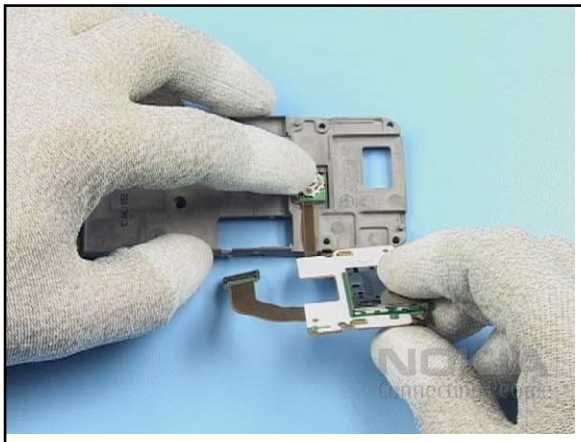
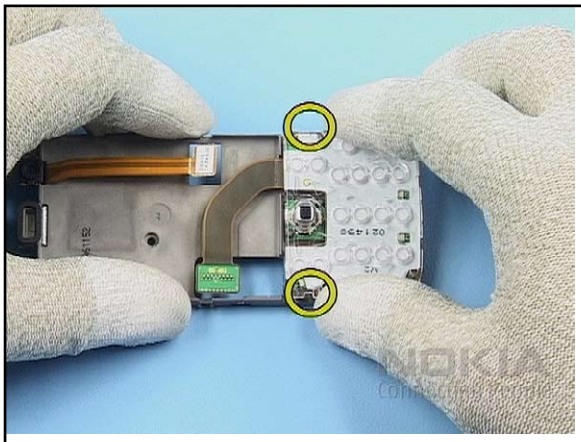


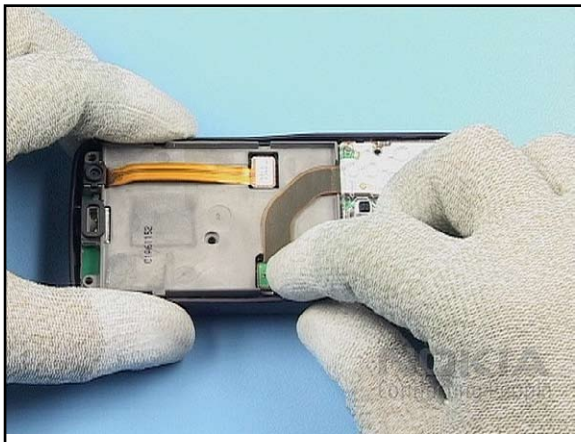
25. Position the UI MODULE onto the UI FRAME and slightly press on the JOYSTICK HAT to ensure that it is glued.

26. Check the right positioning of the UI MODULE.



27. Place the LIGHT GUIDE over the UI MODULE and carefully fit it to the UI FRAME.

28. Put the UI FRAME into the B-COVER and press it into place.



29. Gently, close the connectors.

30. Use always new screws when assembling the unit.

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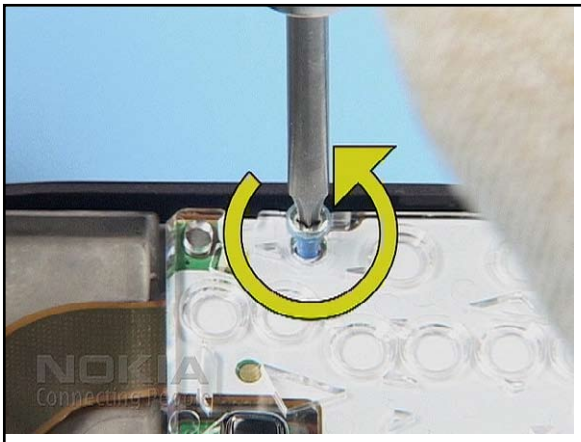
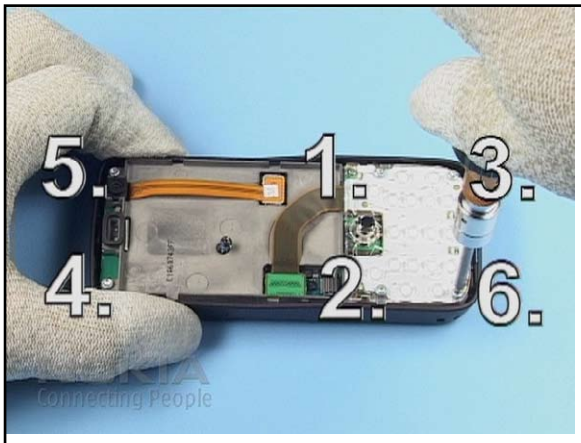
31. Set the torque driver to the torque of 25 Newton centimeter.

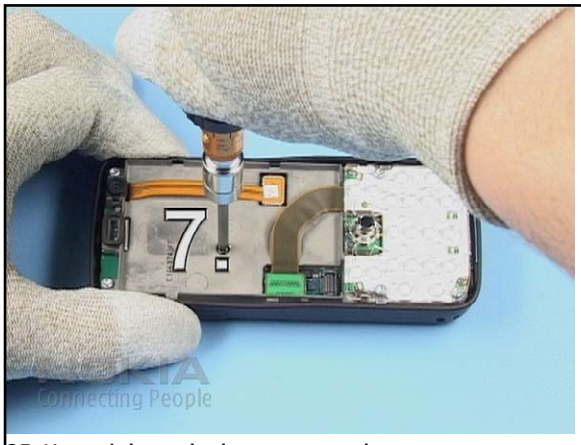


32. To avoid damaging the plastic threads, first turn the screws slightly left to engage the thread and then tighten them lightly.

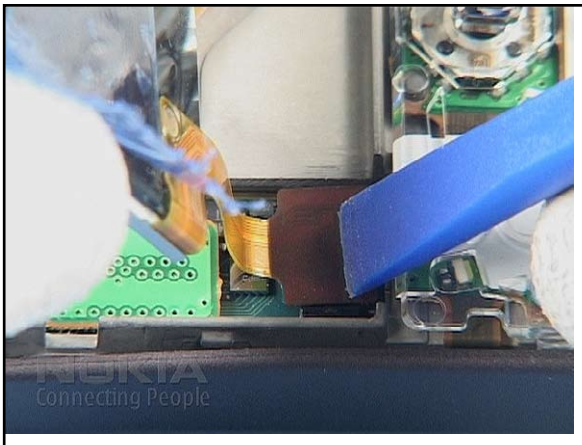


33. Tighten the screws to the correct torque in the order shown.

34. Set the torque driver to the torque of 28 Newton centimeter.



35. Now, tighten the last screw to the correct torque.



36. Connect the DISPLAY to the ENGINE MODULE...

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37. ... and place it carefully onto the UI FRAME.

38. After removal of the plastic film check the surface of the DISPLAY for cleanliness.

39. Fit the DISPLAY SHIELD to the UI FRAME.

40. Insert the SD DOOR but do not close it yet.

41. Put the KEYMAT into the A-COVER.

42. Check the window for cleanliness ...

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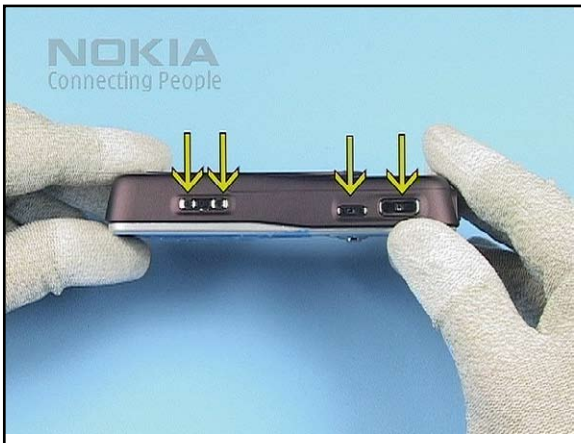
43. ... and fit the A-COVER to the B-COVER.

44. Now, close the SD DOOR.

45. Fit the SLIDE COVER ASSEMBLY



46. Finally, check the functionality of the keys and ensure that there are no gaps between the covers.

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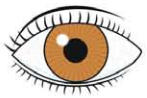
11. LEGEND FOR QUICK TROUBLE SHOOTER

Legend for Quick Trouble Shooter

This legend is valid for all parts of the Quick Trouble Shooter

Follow the steps until the problem is solved. If this doesn´t help, you are not authorized to go forward.

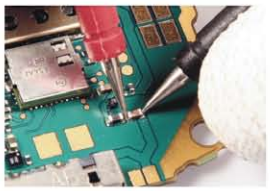


Check the mechanical condition of the component (bent, broken or missing).

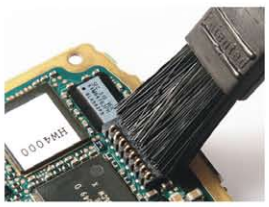
Only marked components can be replaced.

<u>Cloth usage:</u> Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.

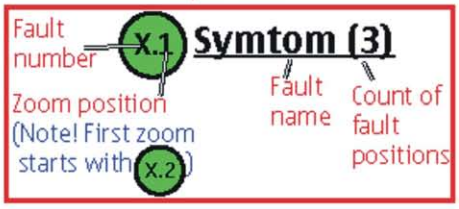
Measure component for electrical functionality and change, if needed.
(Level 2 only)



<u>ESD Brush usage:</u> Check contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.



Explanation



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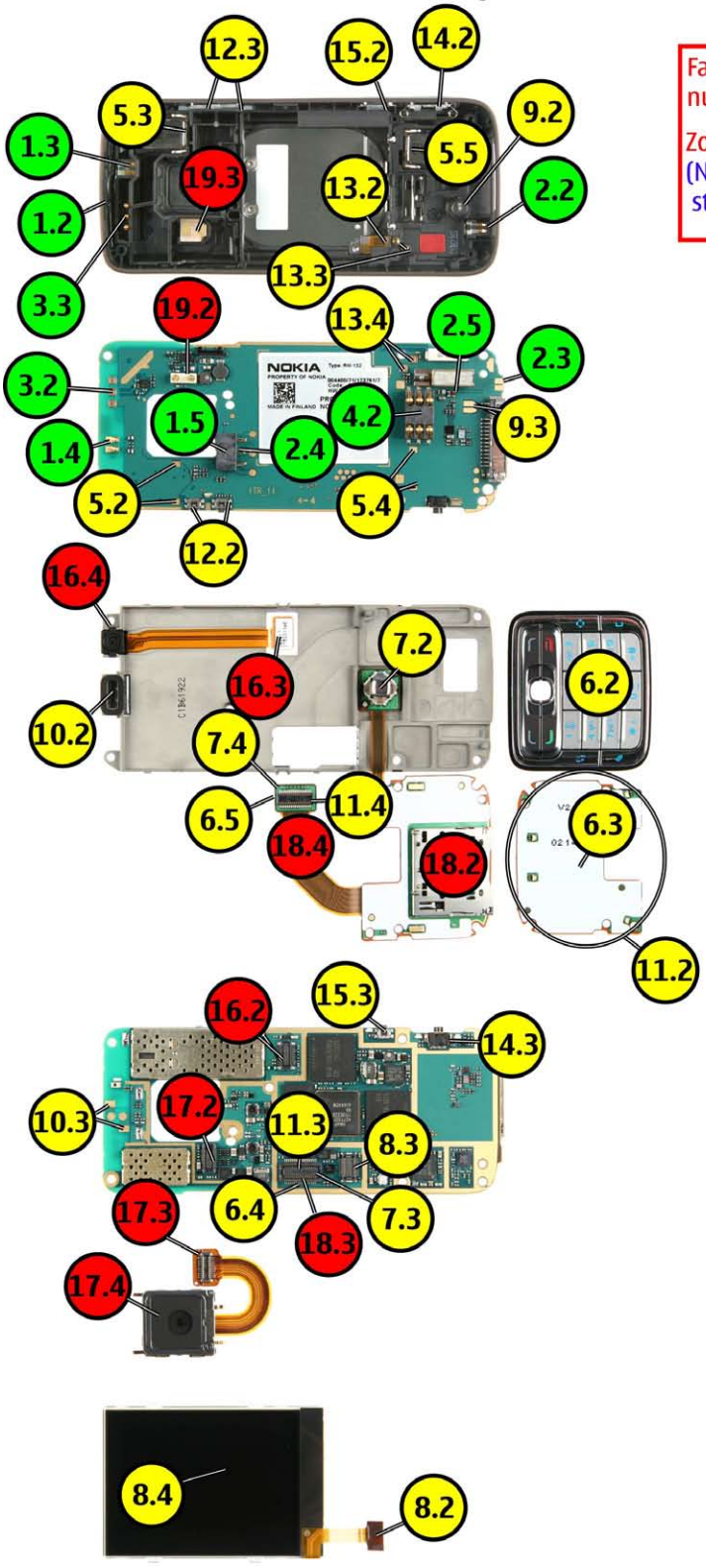
12. QUICK TROUBLE SHOOTER - MAIN OVERVIEW

N73 RM-132 Quick Trouble Shooter



Explanation

Fault number X.1 Symtom (3)

Zoom position (Note! First zoom starts with X.2)

Fault name

Count of fault positions

- 1.1 Power (4)
- 2.1 Charging (4)
- 3.1 Service (2)
- 4.1 SIM (1)
- 5.1 IHF Speaker/2 (4)
- 6.1 Keymat (4)
- 7.1 Joystick (3)
- 8.1 Display (3)
- 9.1 Microphone (2)
- 10.1 Earpiece (2)
- 11.1 LEDs (3)
- 12.1 Volume Key (2)
- 13.1 Slide Detect (3)
- 14.1 Camera Key (2)
- 15.1 Camera Mode Key (2)
- 16.1 Front Camera (3)
- 17.1 Main Camera (3)
- 18.1 SD Card Reader (3)
- 19.1 Flash LED (2)

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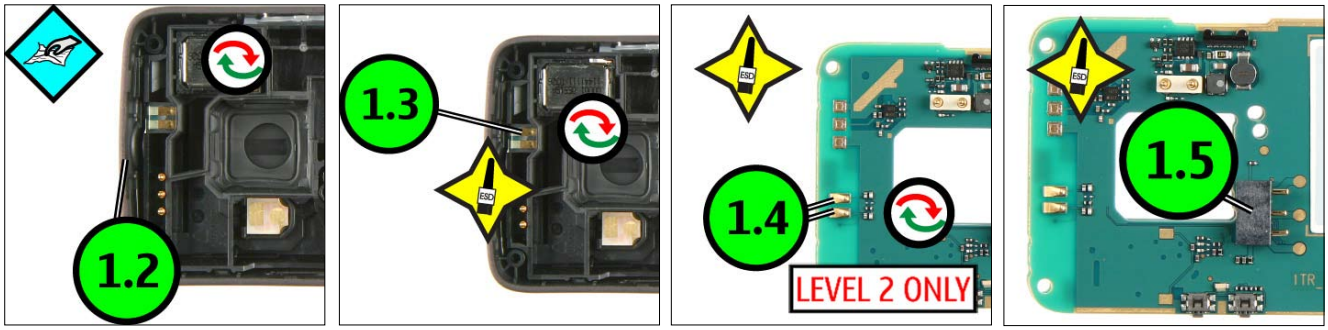
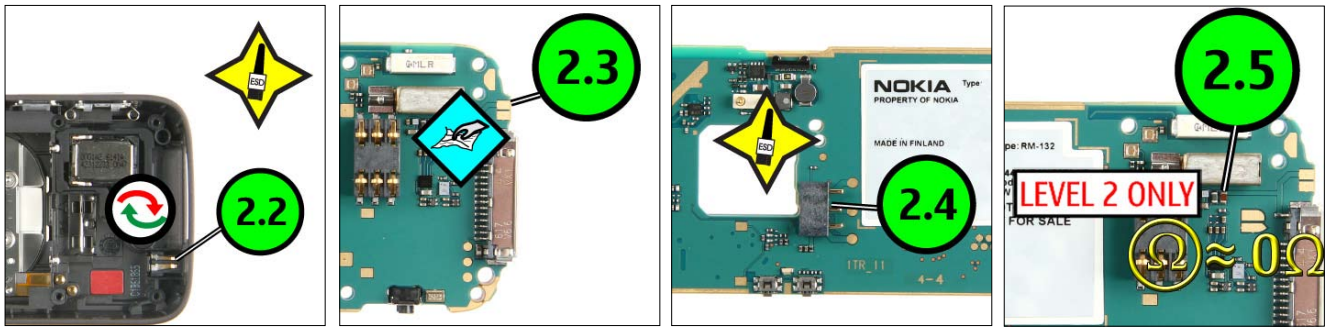
13. QUICK TROUBLE SHOOTER - ZOOMS PART 1

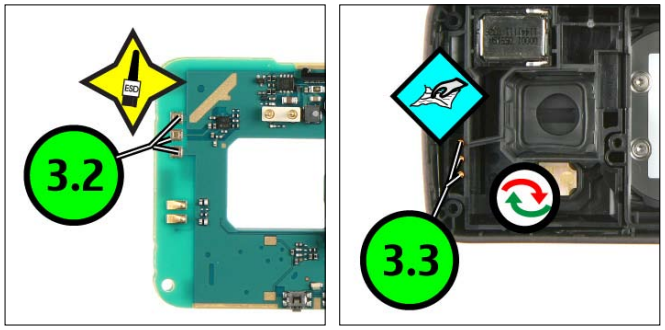
1.1 POWER (4)



2.1 CHARGING (4)



3.1 NO SERVICE (2)



4.1 SIM (1)

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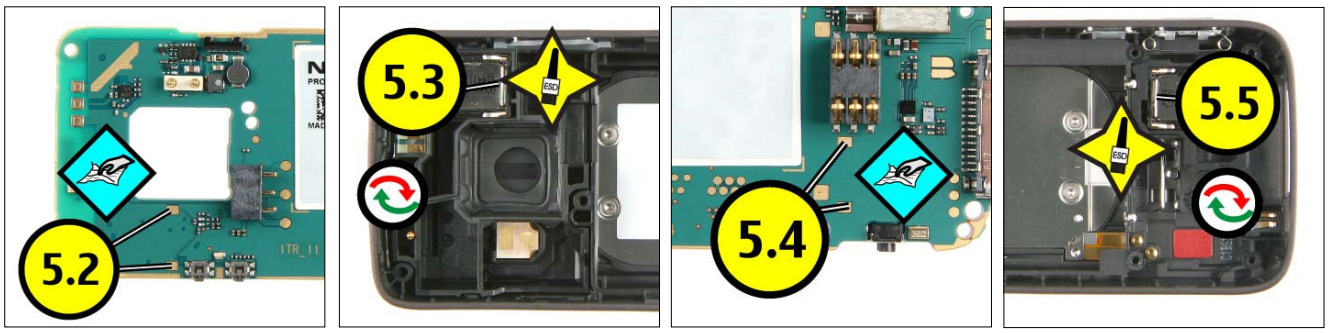
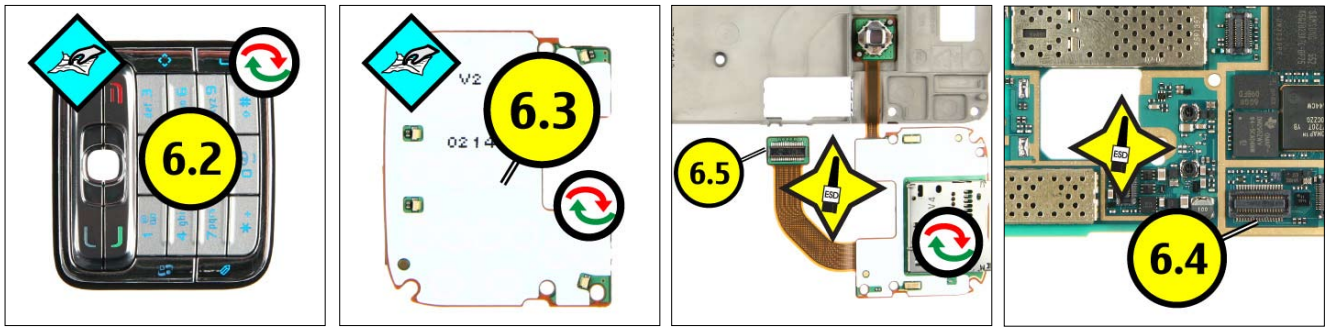
14. QUICK TROUBLE SHOOTER - ZOOMS PART 2

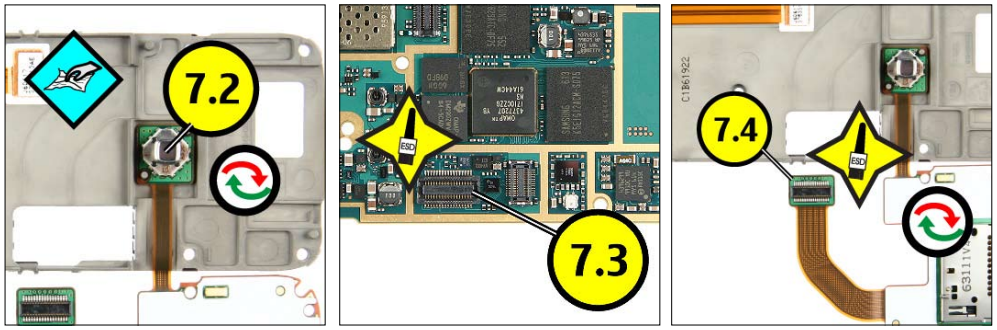
5.1 IHF SPEAKER/2 (4)



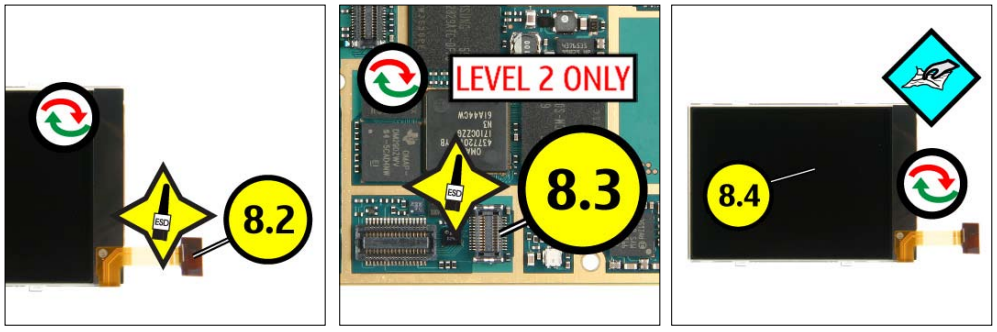
6.1 KEYMAT (4)



7.1 JOYSTICK (3)



8.1 DISPLAY (3)



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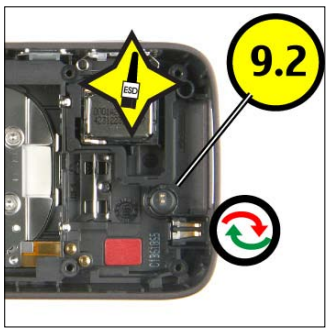
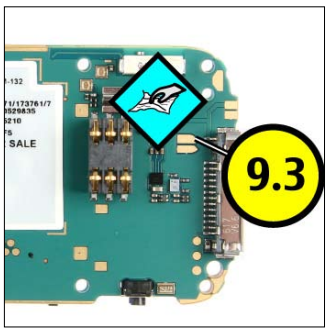
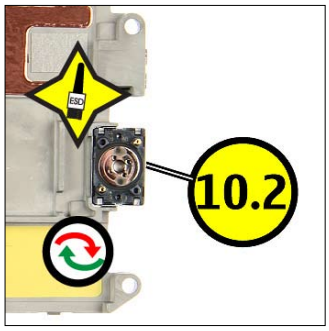
15. QUICK TROUBLE SHOOTER - ZOOMS PART 3

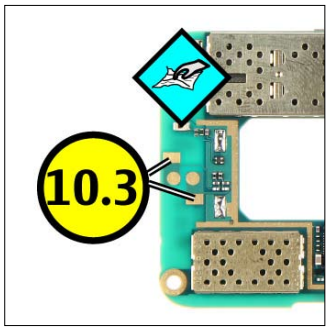
9.1 MICROPHONE (2)



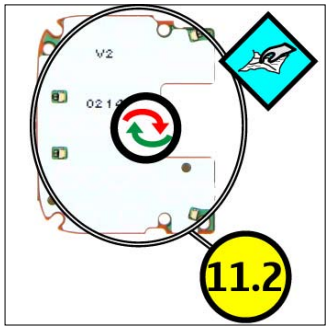


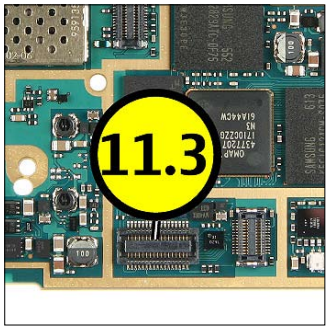
10.1 EARPIECE (2)

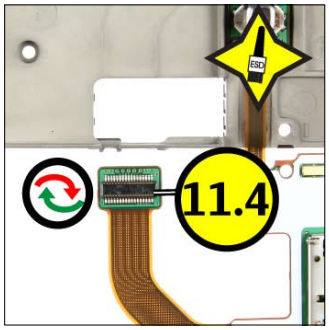




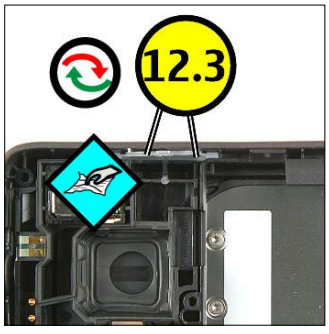
11.1 LEDs (3)







12.1 VOLUME KEY (2)



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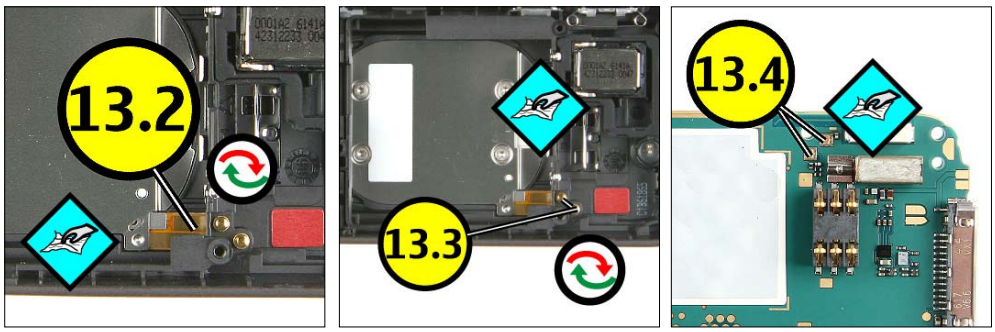
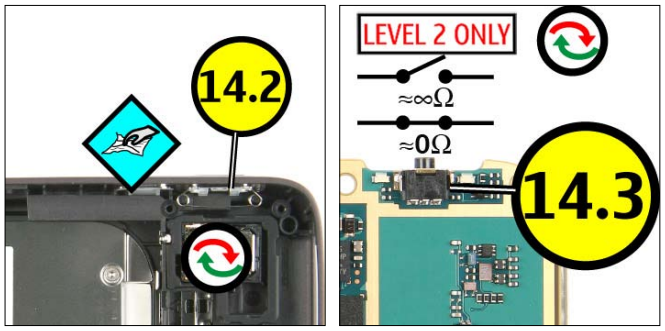
16. QUICK TROUBLE SHOOTER - ZOOMS PART 4

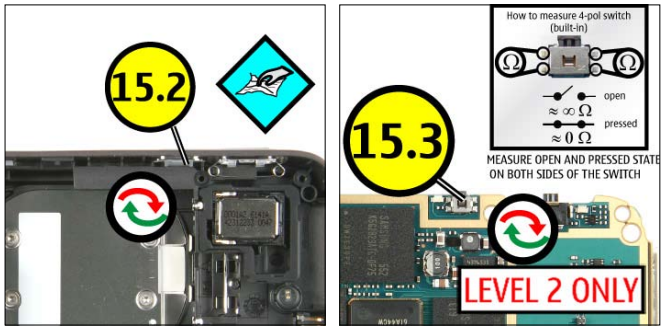
13.1 SLIDE DETECT (3)



14.1 CAMERA KEY (2)



15.1 CAMERA MODE KEY (2)



16.1 FRONT CAMERA (3)

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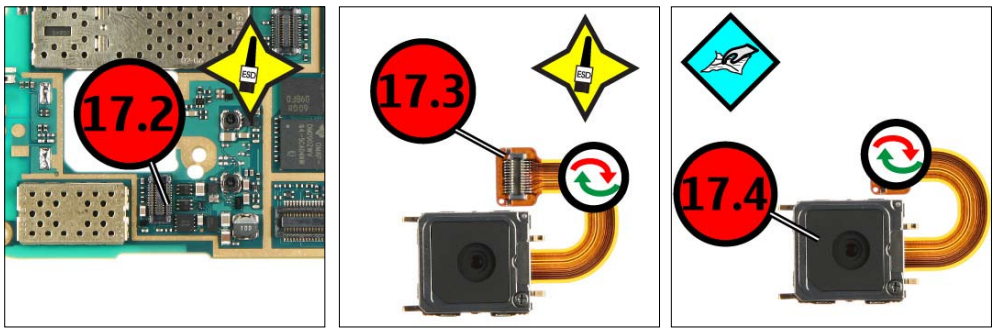
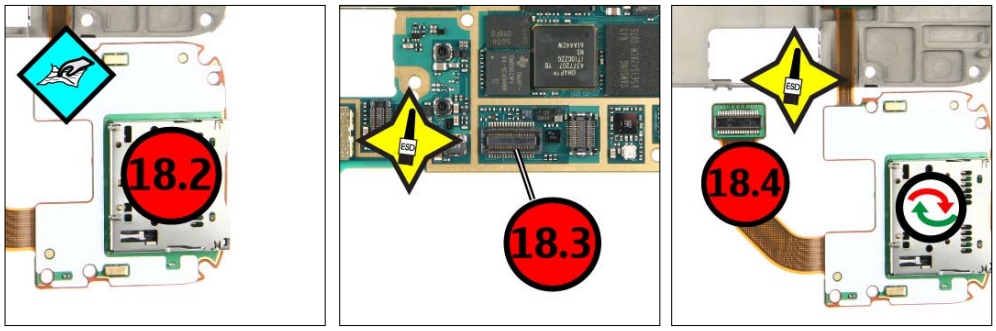
17. QUICK TROUBLE SHOOTER - ZOOMS PART 5

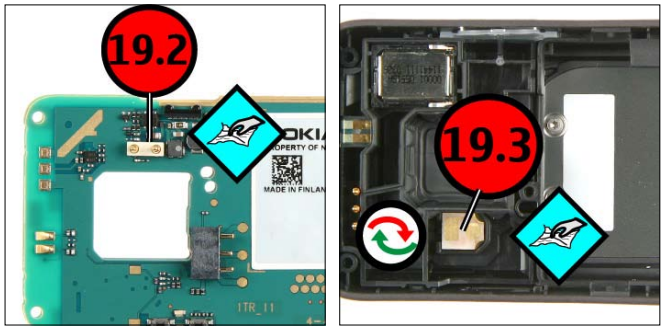
17.1 MAIN CAMERA (3)



18.1 SD CARD READER (3)



19.1 FLASH LED (2)



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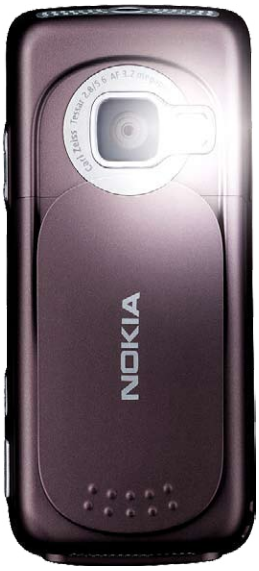
18. GONOGO TEST

To test the Camera, Bluetooth and IRDA functionality refer to the phone User`s guide.

The User´s Guide is available on www.nokia.com.

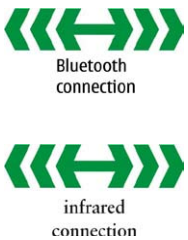
Before starting the GoNoGo test, check that camera window is clean. If not, clean the window with cloth.



Bluetooth test
You need another Bluetooth device (e.g. 6230) to do a GoNoGo test.
Make sure that Bluetooth is activated in the reference unit. The distance of the devices should be not more than 5m from each other.

Infrared test
You need another infrared device (e.g. 6230) to do a GoNoGo test. The infrared windows of the devices must be directed to each other and should have a distance of approximate 15 cm. Make sure that infrared is activated in receiver device.

Warning: Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 Laser product.



Reference unit, Bluetooth /infrared activated

Test unit

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19. BATTERY TEST

A battery tester lets you test the capacity of NOKIA batteries.

Please refer to the actual information on NOKIA Online.

http://www.astratec.co.uk/

http://www.cadex.com/

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